



# ICI MAGAZINE

APRIL/MAY 1965





## CONTENTS

- page 39 **Not Every Picture Tells a Story**  
 page 40 **ICI in India** by Cyril Pitts  
 page 44 **Trends in British Agriculture** by R. A. Hamilton  
 page 48 **Macclesfield Takes Shape** (Picture-story)  
 page 50 **The Changing Face of Britain's Universities** by Trevor Williams  
 page 53 **Why and Wherefore: Central Purchasing Department, an interview with Frank Griffiths**  
 page 56 **People and Events**  
 page 62 **The Chairmen of Divisions: Mr. Derrick Carter of Mond Division**  
 page 64 **The Masters Match** by Peter Allen  
 page 67 **Why Exhibitions?** by Jack Skinner  
 page 70 **A Family Album**



Bob Hamilton



Cyril Pitts



Jack Skinner



Trevor Williams

## CONTRIBUTORS

**Peter Allen** is a deputy chairman of ICI. He has been a director of ICI since 1951 and from 1959 to 1962 was also president of CIL, ICI's Canadian subsidiary. Last July he was appointed chairman of the Committee for Exports to Canada and a member of the British National Export Council, and he has been president of the British Plastics Federation from 1963 to 1965. Has many interests outside work, of which the chief are golf, travel and railways.

**Frank Griffiths**, ICI's assistant purchases controller, joined the ICI Central Purchasing Department in 1928. In 1937 he was seconded to the Engineering Corporation of Palestine as commercial manager and subsequently as commercial director. After further secondment to ICI (Levant) and to Magnesium Elektron Ltd. he returned to CPD in 1945 and assumed his present post in 1953. Outside work his interests are travel, reading and gardening.

**Bob Hamilton** is a deputy chairman of Agricultural Division, chairman of Plant Protection Ltd., Richardsons Fertilisers Ltd. and Ulster Fertilisers Ltd., and a director of W. & H. M. Goulding Ltd. He joined ICI in 1944 as development director of Central Agricultural Control, was a director of Pharmaceuticals Division from 1954 to 1959, of Scottish Agricultural Industries Ltd. from 1959 to 1964, chairman of Central Agricultural Control from 1959 to 1960, and development director of Billingham Division from 1958 to 1963. He is an authority on both tropical and temperate agriculture and has served on a number of Government committees. His hobbies are gardening and photography.

**Cyril Pitts** has been chairman of ICI (India) since April last year. He joined ICI as a trainee in 1938 and was posted to ICI (India) in 1940. He was made manager of the Bombay regional sales office in 1953 and was appointed to the ICI (India) Board as commercial director in 1956. He is also chairman of the Alkali and Chemical Corporation of India, Indian Explosives Ltd. and Chemical Fibres of India Ltd. and a director of Atic Industries Ltd.

**Jack Skinner** joined the commercial advertising side of Central Publicity Department in 1938. In August 1939, as a Territorial, he was called up and served in Europe and North Africa. After demobilisation in 1946 he rejoined Central Publicity Department and in 1958 took over the exhibition section which has involved extensive travelling in Scandinavia, Europe, Russia, and recently to China.

**Trevor Williams**, Head Office Research and Development Department, joined ICI in 1945. He is editor of *Endeavour* and also responsible for university liaison. For several years he was managing editor of the five-volume *A History of Technology*, published for the Company by the Clarendon Press, Oxford. Subsequently he wrote, with T. K. Derry, the *Short History of Technology*.

**Front cover:** Bullfinch feeding young, by J. Blower

The ICI Magazine, price fourpence, is published every other month. It is printed by The Kynoch Press, Birmingham, and published by Imperial Chemical Industries Limited, Imperial Chemical House, Millbank, London S.W.1 (VICtoria 4444). The editor is glad to consider articles and photographs for publication from members of the Company, and payment will be made for those accepted.

# Not every picture tells a story

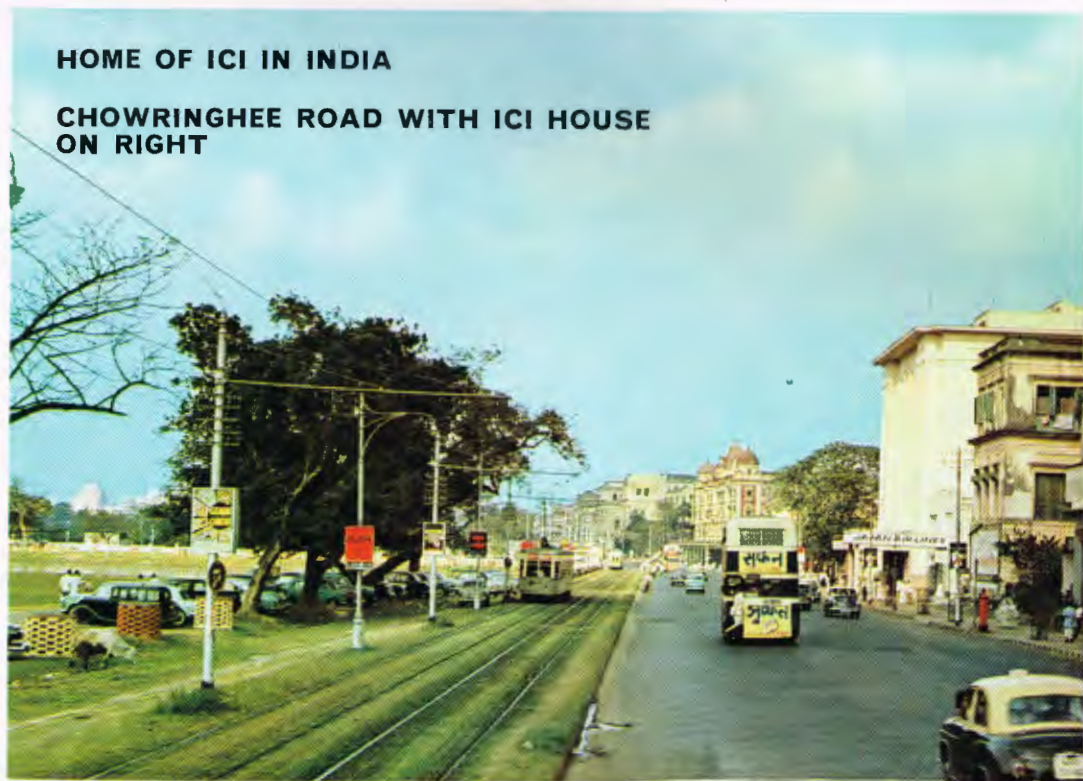
The Magazine receives more photographs than articles from contributors. Both of course are welcome, but clearly there are more fingers on the camera trigger than are to be found round a pen. In the case of photographs, in fact, supply is greater than demand. The reason for this is, as we have pointed out before, that for the isolated photograph—the photograph which is not an illustration for an article in the Magazine—there is place only on the back cover. There are only six back covers a year: competition is therefore keen. To save contributors trouble and, perhaps, disappointment it may be appropriate therefore to set down one or two considerations which should be borne in mind when submitting a photograph for publication in the Magazine. Both colour transparencies and prints made from colour negatives are acceptable. As for size, larger transparencies are preferable for blockmaking, but 35 mm transparencies can be used provided they are sufficiently sharp. Next, there is the question of shape. The covers of the Magazine require a finished picture which is approximately square. Pictures can of course be trimmed to some extent, but very often, particularly where extensive or panoramic views are submitted, so much of their character and appeal would be lost in reducing them to a square shape that the picture would no longer be worth while reproducing. Many otherwise excellent seascapes and skyscapes are lost to us for this reason. Then there is colour. Certain colours—notably green—tend to lose much of their quality in the process of reproduction. It is for this reason that many attractive landscapes and garden scenes have to be rejected. Red in general reproduces well, and so do the browns and yellows. Finally, there is the all-important consideration of subject. Familiar angles of familiar places, however well observed and technically efficient, are, as the saying goes, two a penny. On this account, the holiday snapshot is unlikely to make a good Magazine cover unless it has something which takes it out of the category of a mere holiday snapshot. The cover photograph, be it remembered, has got to stand on its own feet: it has to attract attention by some quality of its own, whether it be unusualness, intrinsic beauty, brilliance of colour, or that elusive “something” known as human interest. The questions to be asked therefore in considering whether a particular subject would be suitable for the Magazine are: Is it of the kind which will reproduce? Is it more or less square in shape? Is it sharp in detail? (There is nothing like enlargement to reveal weaknesses in definition.) Is it of an already familiar object? And last, but certainly not least, does it tell any kind of story?





HOME OF ICI IN INDIA

CHOWRINGHEE ROAD WITH ICI HOUSE  
ON RIGHT



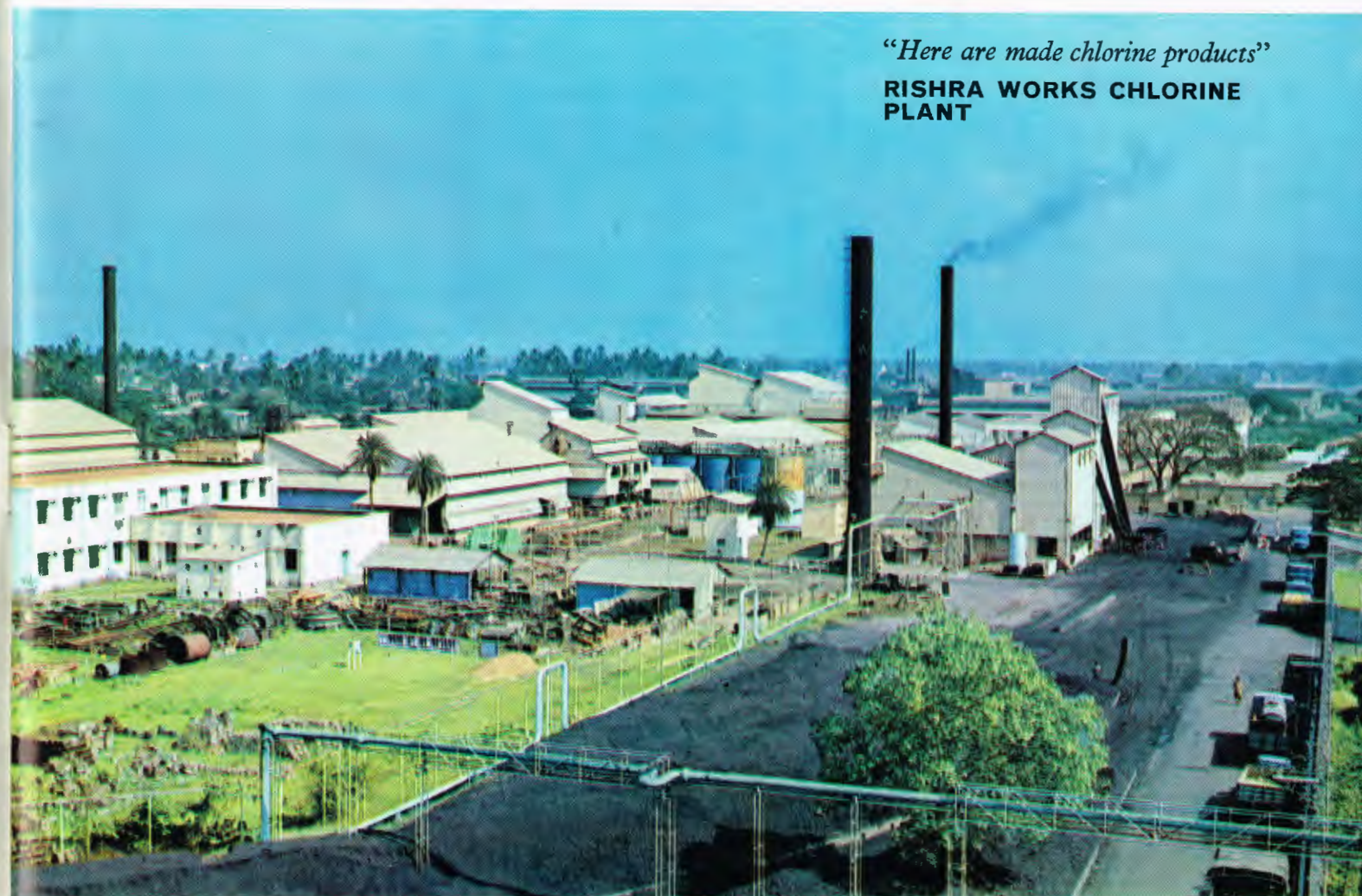
# IN INDIA

*by Cyril Pitts*

An article on India? 1600 words? How much easier to write a book of, say, 160 million words! And even that would be less than half a word for each inhabitant. For this vast country, fourteen times as large as Great Britain, is home to 450 million people, and every year sees another 10 million or so added to the number. Within its boundaries, climate, scenery, people and customs are as varied as anywhere in the world. The broad plains of the Ganges and the towering Himalayas; waterless desert, and Cherrapunji with its 476 inches of rain a year. Tall, fair-complexioned Punjabi, bearded Sikh, dark-skinned Tamil, 40 learned Bengali and warrior Rajput, to

name but a few of its teeming races. Almost all the important religions are here—Hindu and Christian, Islam and Buddhist; there are fourteen major languages listed in the Constitution, and dialects galore; cultures and philosophies as old as man; archaeological treasure houses in the depths of the hills; the asceticism of the Guru on the lonely mountainside; the exuberance of festival and dance on the plains; great riches which are the privilege of the few; relentless grinding poverty which is the inescapable fate of the majority. Even today the average income per person per week is something under ten shillings—a sum to be scorned, perhaps, even as pocket

money by the modern teenager of the West. Unemployment is rife; one family member may be the only earner supporting ten or a dozen others. There are no unemployment doles, no old age pensions; perhaps one man in a thousand owns a radio; not one woman in a hundred has a sewing machine; a country vast and diverse, teeming with people and with poverty, and beset with problems. To the north-west, an unfriendly Pakistan and the worry of Kashmir; to the north-east, the constant threat of a hostile China which has compelled the Government to divert much of the scarce resources of the country to building up an adequate defence. A population



"Here are made chlorine products"  
RISHRA WORKS CHLORINE  
PLANT

which expands so fast that food production cannot keep pace and the small gains of industrial development are gobbled up by the extra mouths.

But the winds of change blow strongly here: the equipage of modern industry can be seen more widely, more frequently, with every year that passes; plants to make steel, machinery, chemicals, fertilizers. Errant rivers have been brought under control and vast irrigation schemes bring water to the wastelands and generate power to bring light and energy to village and factory; academies and institutions proliferate to train minds and hands; and a new generation is arising which strives to break free from the bonds of tradition and taboo.

In this context of change, ICI in India is changing too. The Company's predecessors began as traders in the early part of the century, and ICI (India) was formed in 1928. It was essentially a marketing company to promote the sale of products made by the UK Divisions, and its major achievements in the years between the wars lay in pioneering the

use of synthetic fertilizers by the village farmer; and in promoting the sale of alkalis to the village washerman and soap-maker, and of dyes and chemicals to the textile industry, both mechanised mill and handloom. To make this possible a great network of distributors and stockists was set up throughout the country, and to this day a traveller would not pass through many Indian villages without catching sight of the familiar 'Crescent' brand trade mark which to the villager means ICI.

With the coming of independence and the national urge to industrialise, ICI took the lead in initiating investment in the chemical industry. Since 1947 progress has been rapid, and today explosives, paints, polythene, rubber chemicals, dyestuffs, chlorine products and polyester fibre are manufactured in a group of companies sponsored and controlled by ICI, and other major schemes involving petrochemicals and fertilizers have been laid before the Government for their consideration. The staff and workers employed in these companies now total 6200,

of whom only 51 are expatriates, and of these 25 are short term secondments.

Rapid progress indeed, but behind this plain description lies a fascinating story of human effort and partnership. The task of bringing into production such diverse streams of manufacture in a country as unprepared as India was for rapid industrialisation has been akin to recruiting and training an army and fighting a war simultaneously. Unskilled, often illiterate, villagers with no experience except of agricultural work have in a short time mastered the intricate disciplines required for the manufacture of products such as explosives and polyester fibre. A large technical staff has had to be recruited direct from the universities and trained to the task of running plants and managing men. But there is no lack of talent: Indians have proved conclusively that, properly trained, they can be as good chemists, engineers, accountants, managers and the like as any people in the world, and in properly run and properly organised factories the productivity of the Indian worker is second to none.





*"People, scenery and customs are as varied as anywhere"*  
**A GUJERAT MARRIAGE PARTY**

Partnership is typified in the varying corporate structures which have evolved. In the explosives company, ICI is in partnership both with the Government of India and the Indian public. It makes dyestuffs in partnership with a well-known Indian industrialist. In two other companies it is associated with the Indian public. And in the market place the group of companies is linked with 375 distributors and stockists of various kinds, not a few of whom have been with ICI in India since its inception. These agents are remarkable for their great loyalty and the pride which they take in being associated with ICI. The contact which the young executive makes early in his career with these seasoned traders is an excellent and accelerated method of mastering the repertoire of commerce, and the friendships so formed can be expected to endure for a lifetime and are a source of great strength to the Company in the competitive hurly-burly of the bazaar.

The manufacturing sites are far-flung. The first in time was at Rishra beside the Hooghly river and about 15 miles from Calcutta, adjacent to the notorious Grand Trunk Road which is by no means grand and bears little resemblance to a major highway except for the trucks which

thunder along its narrow, winding length as though it were a motorway. Here are made the chlorine products, polythene, paints and rubber chemicals. The second major site is at Gomia, in the State of Bihar, some 220 miles from Calcutta, where a large factory and small township have been built in the heart of scrub jungle. In six short years manufacture of industrial explosives has been developed to a point where the country is now independent of imports. Dyestuffs are made at Bulsar, beside a quiet river near the coast, some 120 miles north of the busy city of Bombay, and major extensions are planned there. The fourth and newest site is near Bombay itself. This houses the latest addition to ICI's investments in India, a polyester fibre plant, the first of its kind in the country and the harbinger of a great new industry conveniently sited adjacent to one of India's largest textile manufacturing centres.

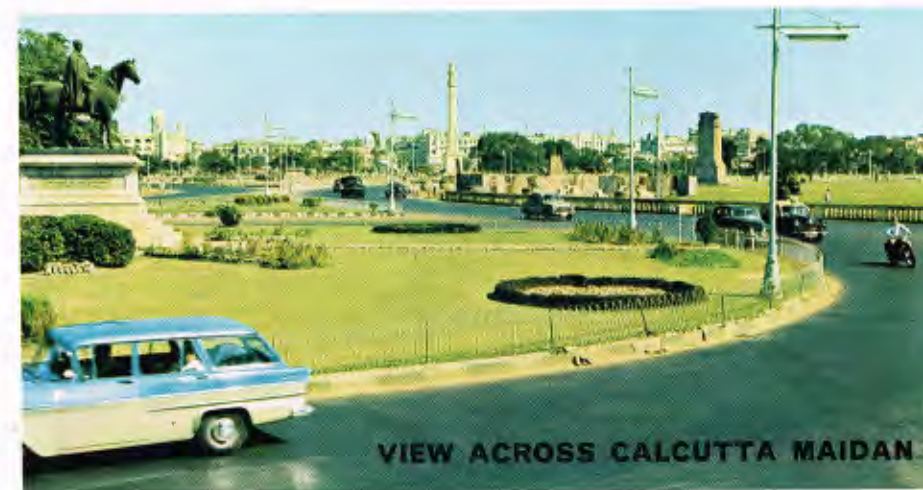
For the Britisher in India life has inevitably changed greatly since independence. New career men are few and far between, and the expatriate population changes rapidly; the more usual arrival nowadays is a technician on short secondment to do a specific job. The leisured, spacious days are long since

past; in most companies the working week remains 5½ days, and busy days they are. Meticulous government control of trade and industry has given rise to a mountain of work and almost as much frustration. And a not inconsiderable part of leisure time is taken up with meeting the unending stream of visitors from abroad who come to look at investment prospects in this exciting market of 450 million potential customers; in helping to organise, out of office, training activities in various management skills in response to the enthusiastic demand of young Indian executives; and in helping to administer the charities, clubs, schools, nursing homes and the like which are part of the British legacy in India.

Yes, life for the Britisher has changed, but so have the compensations. Responsibility comes early to the foreign executive and usually over a wide field. Taxes may be high and the good things of life hard to come by, but a man who is ordinarily sensitive and humane cannot work for long in India without getting caught up in the excitement of one of the great challenges of this modern age: the race against time to help 450 and more million people propel themselves out of the shadows of poverty, disease and



*"In the heart of scrub jungle"*  
**EXPLOSIVES PLANT BUILDINGS AT GOMIA**



**VIEW ACROSS CALCUTTA MAIDAN**

despair towards the sunnier uplands of a healthier, happier and more prosperous life. To many of us the unique satisfaction of working in India is that while doing the normal things, like ensuring that the figure of return on capital is ample enough and keeping the shareholders happy, and while finding for oneself the personal satisfactions of promotion and increasing prosperity, the work one does is a contribution, however small, to a great international effort which is driving across the boundaries of country, colour and religion towards a more stable and a more prosperous world.



# TRENDS IN BRITISH AGRICULTURE

by R. A. Hamilton

Jealott's Hill research station

Mechanisation coupled with heavy capital investment in stock, buildings and land improvements has contributed to a doubling of output per man since before the war. Indeed, the progress made in this direction is more than twice that of the manufacturing industries in Britain over the same period. In the late '30s there were three-quarters of a million horses working on British farms and very few tractors, whereas today there are half a million tractors and few horses, but the increase in h.p. is about sixfold to around 15 million horsepower. This is a measure of the degree of mechanisation which has occurred, leading

to a substantial reduction in the number of men employed on farms—a reduction in fact from 800,000 men in 1939 to 600,000 today. Despite this fall in manpower our farms now produce enough food for 25 million people—well fed, too—compared with 15 million before the war, and this from an acreage reduced by expanded housing, industrial building, motorways, and other inescapable demands.

The factors contributing to this increased production are numerous. Plant and animal breeders have made striking advances in producing crop plants and domestic animals capable of much higher

performances than many of us could ever have foreseen. In livestock improvements resulting from breeding, one of the most significant factors has been the increasing use of artificial insemination. The advances resulting from breeding and selection, however, could not have been exploited if crop husbandry, livestock management and housing methods had not kept pace. An integral part of the progress in crop and grassland husbandry techniques has been the use of nitrogen fertilizers, which has increased tenfold during the past 25 years, and this, coupled with new varieties of cereals, has resulted, for example, in a

doubling of barley and wheat yields. These, and other developments like the discovery of hormone-type selective weedkillers, made it possible for British farmers at their last harvest to secure an all-time record crop of over 12 million tons of grain—an operation made much more certain in our variable climate by the use of 60,000 combine harvesters and 30,000 grain dryers.

New techniques have enabled valuable crops to be grown on land which was until comparatively recent times considered unsuitable. One example is provided by large areas of the chalk downs of southern England, which used to be known as "sheep and barley" land. It was thought that sheep were necessary to provide the right sort of natural manure and general fertility for good crops of barley. Today the same land is growing far higher yields of barley and even wheat, for which at one time it was thought unsuitable. This has come about by the advent of the combine seed and fertilizer drill and the use of modern concentrated granular fertilizers, pioneered by ICI, aided by the development of selective weedkillers discovered at Jealott's Hill, the Company's Agricultural Research Station. Yields from these lands are now among the heaviest in the world.

## Grass as a crop

Great advances have been made in Britain's grasslands. Grass is a crop which the man in the street, and the farmer too, until a few years ago, almost took for granted. Even after a twentyfive-fold increase in nitrogen fertilizer use over the past quarter-century, grass still offers the greatest scope in British farming for further exploitation. The area of grass is larger than that of all remaining crops put together, and no other crop has a greater potential feeding value for cattle and sheep.

In helping to produce the nation's milk, which now exceeds 2½ thousand million gallons a year, a cow on many modern dairy farms grazes grass summer and winter, using an acre and a half of grass, whereas before the war about three acres were needed for summer grazing only. Who ever heard of cows grazing grass in winter? The technique here is to grow as much grass as possible in the spring, summer and autumn by making frequent applications of fertilizer and controlling the cows' grazing. Control is usually exercised by giving the cows a little fresh grass at the right stage of growth behind an electric fence, moved forward once or twice a day. As soon as grass gets past the best grazing stage the surplus is mechanically harvested and preserved as silage. This is what the cows graze vertically in winter on a self-feeding system. Cows may lie loose in yards or cubicles, helping themselves to silage, and are then milked in "parlours" from where the milk goes straight from the cow to a



Above: The old method of turning potatoes  
Left: Friesians self-feeding in a covered silo





Farm produce on display



Winter barley emerging through stubble sprayed with 'Gramoxone' and directly drilled

bulk refrigerated milk tank. In the older system by contrast each cow is tied by the neck and all food—about 1 cwt. per cow per day—has to be manhandled and the dung removed by wheelbarrow. Today life is easier for animal and man, and one man is able to look after two or three times as many cows. With grass as the main item on the cow's diet, the whole enter-

prise is made much more economic. This provides a good example of the result of high capital injection—for yards, self-feed silos, milking parlour and bulk tank—and advanced techniques such as high fertilizer usage and good grassland management resulting in reduced production costs and higher profit per acre.

Similar advances have been made with

beef cattle, both pure beef, where dam and sire are of a beef breed—Hereford, Beef Shorthorn, Charolais, Aberdeen Angus, etc.—and cross beef. Cross beef is obtained from a calf whose dam is from a dairy breed such as an Ayrshire and whose sire is a pure beef bull. An Ayrshire calf pure bred is too lean and bony to make a good beef carcass. Indeed, until recently even the crossbred Ayrshire was not looked upon favourably for beef production. A crossbred calf has some of its sire's good beef characteristics transmitted to it, and in modern systems of beef husbandry even the Ayrshire cross can make good beef.

These cross calves are well fed from birth till springtime and are then intensively grazed on heavily fertilized high-quality grass, any surplus being made into silage as for dairy cows. In the autumn the cross calves or pure-bred beef calves which have been suckled on their mother are loose housed and self fed, mainly on silage rather like dairy cows, but because there is no milking the capital tied up in buildings and equipment is much less, and one man can look after as many as 400 fattening cattle on this system. The end result is young, economically produced high-quality beef at around eighteen months old and fed very largely on grass. At a time like the present, when world supplies of quality beef cannot meet the demand, an extension of this system in the United Kingdom may become very important. An advanced example of this technique which is practised on one of the Agricultural Division's developed farms—The Leaths in Kirkcudbrightshire—was successfully demonstrated to a large audience of Britain's leading farmers and agriculturists at the beginning of March. The two great advantages of this system are that the calves are mainly a by-product from the dairy industry and their feed—the main item in cost of production—comes from the cheapest source—grass.

As Britain's grasslands have great potential for expansion economically, this crop will become more and more important to the agricultural industry and the country as populations increase and pressure on food supplies grows. A full exploitation of our grasslands could make a substantial contribution to the solution of the country's balance of payments problem.

ICI's Agricultural Development Department has played a leading role in developing and demonstrating these and other techniques of grassland management. Much effort is being applied to gain wider acceptance of them among farmers, as well as to develop other techniques that will increase still further the production and profitability of British farms.

#### Indoor farming

Nowadays most of our eggs are produced from egg-laying units of many thousands of highly bred hybrid hens, usually in battery cages where the hens' performance is measured in pounds of food per dozen eggs produced, and where one man attends to

feeding, egg collecting and house cleaning for 5000 hens. The ultimate in this type of enterprise is one which, it is reported, is being built up over the next few years, comprising about twelve million hens which will lay over eight million eggs per day. It is intended that this enterprise will be split up into units of two million hens, each unit with its own hatchery, feeding-stuffs mill, and egg grading and packing station. In such an organisation it is estimated that the cost of producing each egg may be little more than half of that of the average egg producer, but of course it is too early to say whether the advantages of scale may not be at least partly offset by other factors.

Similar advances have taken place in the broiler industry producing table poultry, where many thousands of birds are kept, not in batteries but in vast numbers on deep litter, and birds are now produced weighing over 3 lb. in a mere ten weeks from emergence from the shell. Livestock breeding in poultry has reached a stage of sophistication and specialisation that is unique—the breeding techniques used for egg laying and broiler or meat producing birds are poles apart, and breeding programmes are so complex that the present achievements would not have been possible without the use of modern computers.

Even beef has been subjected to great intensity of production in the form of barley or "broiler" beef. In this system calves, most often Friesians surplus to the dairy herd's requirement, are fed intensively on an almost wholly barley diet from weaning till slaughter. They are kept inside all the time under fairly constant conditions, and the result is young, tender beef from a lightweight animal at under a year old. One large meat wholesaler is starting production of 10,000 beef animals, fattened indoors on barley. They form one complete unit, which is ten times larger than any beef lot previously operated in this country. Other similar large-scale units are being forecast, not only for poultry and beef, but also for bacon and pork.

At first sight it might seem that "barley beef" production is running in an apparently opposite direction to that already described based on modern intensive grass production, and that the development of both systems concurrently cannot be sound. This is not necessarily so, and while there are those who believe that beef production based on grass will be more economical and produce better-quality products, it may well be that there will be a development of the two complementary systems on a regional basis—barley beef in the arable areas and grass-fed beef in the predominantly grassland areas.

Large firms concerned with agriculture, feedingstuffs compounders for example, are showing interest in the large-scale production and processing of eggs, broilers, pigs, and other livestock products. The number of such agricultural producers may well increase over the next few years.

#### Marketing

Developments in the retail food trade, and particularly the spread of the supermarkets, are setting uniform standards of quality and grading for home-produced food.

Large retail and wholesale food firms are becoming powerful individual buyers of some of the farmer's produce, the farmer in some cases being under contract with the buyer, and the buyer sometimes having some control over the production process. As time goes on it may well be that the numbers of such firms may become fewer and more powerful, with a relatively small number controlling the marketing of important classes of food.

Such changes, in which the process of marketing increases in importance relative to production, pose important problems for farmers, who in some cases are joining forces in groups powerful enough to negotiate equally with the marketing and processing firms and even to enter the marketing field themselves. The farmers' co-operatives and other existing groups have as one of their functions the purchasing of farmers' requisites, but the importance of co-operating in order to sell, although already well understood, is a more difficult function to perform. However, developments in this direction are in being, and of course producer marketing boards already exist for some commodities.

Although major developments in marketing techniques and plans will form some of the most important changes in our agriculture of the future, there may well be a speeding up in the change from small to large farms, and there will also be major changes in farming practice.

#### ICI's contribution

Since the 1940s, among the major innovations to our farming have been mechanisation and, more recently, intensive livestock feeding. Although both these developments will continue to gain wider acceptance, farming both in this and other advanced countries is now in what might be called the "chemical age." Already fertilizers, crop protection chemicals, animal health products and chemical additives to animal feedingstuffs have made a big contribution to agriculture, and they will become increasingly important in the future. It may well be that by the mid-1970s the use of fertilizer nitrogen in the United Kingdom will be about a million tons a year, more than half of which will be used on grassland which before the war received scarcely any nitrogenous fertilizer. ICI's new concentrated nitrogenous fertilizer 'Nitram,' and the recently introduced more concentrated compound fertilizers of the Agricultural Division, will make an important contribution to the most efficient use of fertilizers on Britain's arable crops and grassland.

The discovery at Jealott's Hill of the unique bipyrindyl herbicidal chemicals paraquat and diquat, which are being developed by Plant Protection Ltd., will

have far reaching effects on farming practices both in this country and overseas. Paraquat, sold as 'Gramoxone,' in addition to its general use as a herbicide, may even in many circumstances eliminate the need for the time-honoured plough. By spraying a field of worn-out grass or corn stubble with this chemical all green growth is killed, and it is possible to sow the new crop—an arable crop or new grass—immediately afterwards, as the chemical becomes inactive as soon as it comes in contact with the soil. No cultivations such as the usual ploughing, discing and harrowing are required when 'Gramoxone' is used in this way. The advantages of this method of sowing are not only savings in time and money and flexibility in periods of uncertain weather, but also preservation of a good soil structure. Better crops can be grown because soil erosion and loss of moisture are reduced or eliminated. As these risks are often major agricultural problems in many overseas countries, 'Gramoxone' is likely to be valued in other countries at least as much as in Britain. Already important overseas markets are being developed for this chemical.

Other uses for the bipyrindyls are as herbicides for water weed control and as desiccants sprayed on crops to facilitate harvest. Other developments in the agricultural chemicals field will have a profound influence on the agriculture of the future, and with Jealott's Hill Research Station, which has many outstanding discoveries to its credit since it was established in 1928, and the Pharmaceuticals Division's Research Station at Alderley Park catering for the animal health field, ICI is well placed to play a major part in the Chemical Age of Farming.

The use of chemicals in farming, as well as providing rewards to the user and the manufacturer, also carries with it great responsibility. It is essential to ensure that all chemicals used in agriculture are safe in every sense of the word. For this reason all responsible manufacturers are in favour of the strictest testing of the action of these chemicals on animals and plants before they go on the market. A major part of ICI's research expenditure on agricultural chemicals is devoted to ensuring that our products pass the most rigorous tests, and the use of the Company products in agriculture is backed by a technical service of the highest repute.

British agriculture is one of the nation's largest industries, with an output fast reaching the two thousand million pounds mark. Half of our total food originates from British farms, and of that which can be grown in temperate countries 70% is home grown. With an increasing population and rising standard of living the UK will require more food year by year, especially of the higher-quality animal products. British agriculture of the future will be well placed to supply most of these products and thus make a further contribution to reducing the nation's import bill.

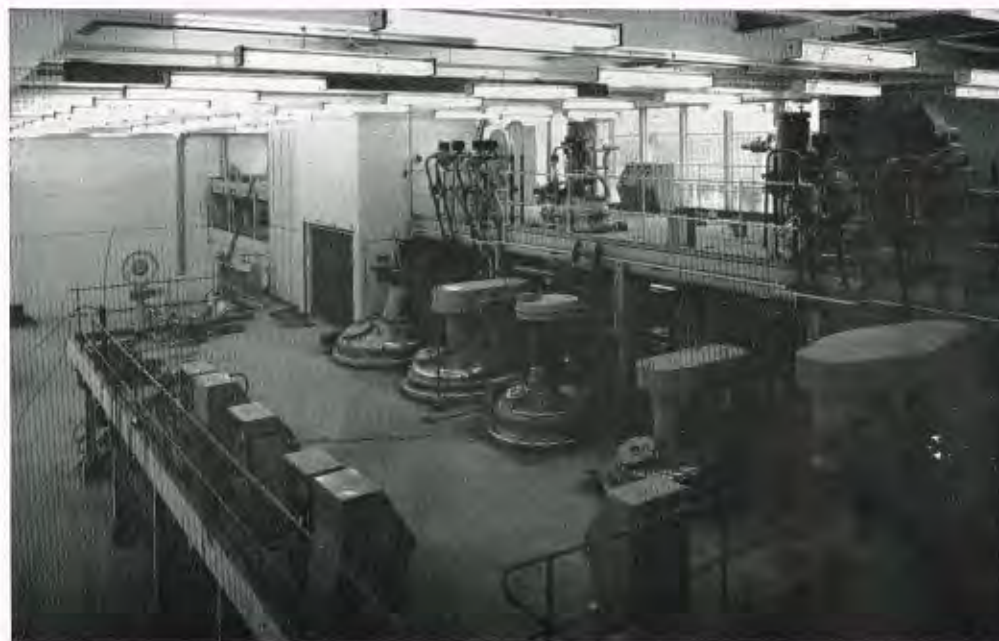


# MACCLESFIELD

# TAKES SHAPE: a photographic foreglimpse



Packing Hall of the Pharmaceutical Building, showing the filling and packing lines in course of construction. Right: Liquids, creams and ointments pans in course of construction



*Pharmaceuticals Division's great new factory at Macclesfield in Cheshire is now in a fairly advanced state of construction, as the pictures show. Situated on an industrial site only about four miles from the Division's recently completed headquarters and research laboratories at Alderley Park and occupying about 45 acres, the new factory will not only allow practically all the processing of the Division's products to be centralised on the one site but will still have room for considerable expansion. Only the latest techniques and equipment have been used, and advantage has been taken of the sloping character of the site to plan the whole factory so that the various functional areas could be positioned in such a manner that only the minimum of excavation was necessary, with the packing hall at road level at the front of the building and the service pipes, ducts, etc., coming to the processing and packing areas by means of a basement. Another advantage of this arrangement is that dust can be extracted downwards. Initially about 900 people will be employed at Macclesfield, which will be among the most advanced factories of its kind in the world.*



Stacking in the warehouse of the Pharmaceutical Building. Left: A view from the top of the Laboratories, showing the Medical Centre, Amenity Block, and Workshops, with chemical plants in the background





# The changing face of Britain's

The years since the war have seen a rapidly growing recognition of the need for more and better facilities for university education in Britain. An outward and visible manifestation of this is the creation of no fewer than eight new universities and the promise of two more. A cautious start was made in 1950 with the University College of North Staffordshire—which since 1962 has had full academic status as the University of Keele—and this was followed in 1961 by Sussex. Then, in rapid succession, government approval was given to new universities at Norwich, York, Canterbury, Colchester, Coventry and Lancaster. During the same time, virtually every existing university has been asked to expand and the Colleges of Advanced

Technology are being given university status, as has the Royal College of Science and Technology, Glasgow (now University of Strathclyde). Other relatively minor changes have increased the total number of independent universities; Newcastle and Durham, for example, have become independent of each other, and Dundee and St. Andrews propose to follow the same course.

In round figures, the result of all this activity was that last October 37,600 new students were admitted to British universities; in addition, over 4000 embarked in the Colleges of Advanced Technology on courses comparable with those in the universities. But this is only the beginning. In 1963 the Robbins Report advocated a

total student population of nearly 219,000 by 1973/74; in February, the present Government confirmed that this was still the target.

Nationally, an important consequence of this expansion programme will be to break down the remaining barriers of class and income that may deny university education to those who could profit from it. So far as ICI is concerned, it is of major importance because the carrying out of our own future plans is dependent on the availability of highly trained men.

Paradoxically, the very rapid expansion of the universities is at present making our task harder rather than easier. Inevitably, the universities must retain an abnormally high proportion of their graduates to bring their own staffs up to strength; not until this phase is over, and the larger battalions of graduates emerge, will the shortage be alleviated. Until this time, around 1970, everybody—the universities themselves, industry, the government service, schools, and all employers of graduates—must face the fact that there are insufficient appropriately trained men available for the jobs that have to be done.

In the modern pattern of higher education the completely new universities naturally occupy a place of special significance. Their very novelty assures them of public interest, but there are much deeper reasons than this for watching their progress. Times change, and we must change with them; but it is always harder for established institutions to adapt themselves to new social, economic and political situations than those which start from scratch on green-field sites. When established universities want to change, there is the additional complication that at any one time there may be some 15,000 to 20,000 students in the pipeline, whose interests must not be prejudiced by changes designed for the benefit of new entrants; somehow or another, old courses must overlap with new.

The new universities have a freer hand. Unlike many—though by no means all—of the older establishments they have ample space for building. They are free to experiment with new teaching methods,

# Universities by Dr. Trevor Williams

and new courses and combinations of subjects. They can often establish outside associations—with industry, for example—more easily than older institutions with established patterns and constitutional restrictions. For such reasons ICI has taken an active interest in the new universities and—in common with a large section of British industry—has assisted them financially to get established. We are closely watching their development and look forward to the opportunity before very long of welcoming some of their first graduates as members of the Company. At the same time, of course, we continue to rely heavily on the older and well-tried foundations, in which we have many good friends, and look forward

to establishing even closer links with them.

Of the new universities, Keele and Sussex were first in the field. Although Keele obtained its full charter only in 1962, it opened its doors fifteen years ago as the University College of North Staffordshire. It is unusual in having a four-year course. The work in the first year—the so-called foundation year—is the same for all students, who during their last three years must take two main subjects for the whole period and two subsidiary subjects for one year. The aim is to produce a more widely educated graduate than more conventional and rather narrower courses can do.

Sussex is perhaps the best publicised

of all the new universities. Particularly favoured by its agreeable site and position, it is challenging the long monopoly of Oxford and Cambridge as the first choice of able young people. The public interest in some of its non-academic aspects has perhaps tended to obscure its academic merit, reflected in the calibre of its staff. Its first graduates—27 women and 12 men—are just beginning to submit themselves to the test of public approval.

The other new universities are yet to release their first batch of graduates, but in their case too the quality of staff they have been able to recruit augurs well for the future. East Anglia and York opened their doors in 1963; Essex and Lancaster admitted their first students last October;



50 Students at Keele Hall, Stoke-on-Trent



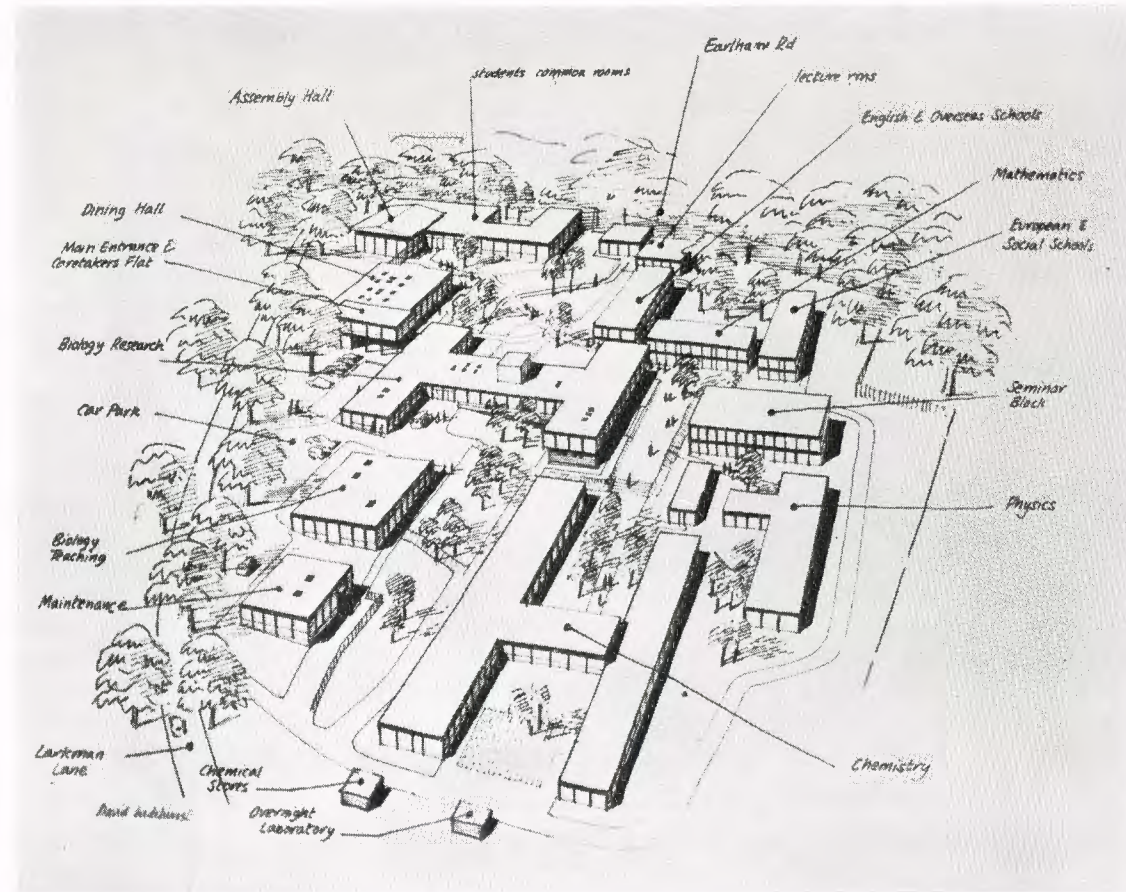
Students' Common Room at the University of Sussex



# WHY AND WHEREFORE CENTRAL PURCHASING



A discussion with  
Mr. F. W. Griffiths of  
Central Purchasing Department



Architect's drawing of the new University of East Anglia at Earlham, near Norwich

Kent and Warwick have their first intake this coming autumn. Of necessity, all must operate on a small scale at first because of lack of accommodation, and it is early days to judge their potential. But the immediate target of all of them is at least 3000 students, and some plan to grow far bigger than this; Warwick, for example, is already thinking in terms of 20,000 students. Within a few years they will be making a very substantial and welcome contribution to the graduate population of this country.

The Robbins report advocated the foundation of six new universities over and above those already mentioned. It is now clear that this proposal will not be proceeded with within the next ten years. Not only is the economic climate now less favourable than it was when the present batch was approved, but the existing programme is severely taxing our resources of academic manpower. Apart from a new university already approved for Scotland (Stirling) and another for Northern Ireland (Coleraine), the only other possibility—according to a recent statement by the Secretary for Education

and Science—is a technological university in the North-East.

A recent change of emphasis within the universities is another reason for pausing to consider future policy. The remit of the Robbins Committee was "to review the pattern of full-time higher education in Great Britain and in the light of national needs and resources to advise Her Majesty's Government on what principles its long-term developments should be based." No one can doubt that a particularly urgent national need at the present time is for more scientists and engineers. Yet the February report of the Universities Central Councils on Admissions records the astonishing fact that at this moment—long before the expansion programme is complete—there are in British universities 1080 empty places in science and 420 in technology, and this despite exceptional efforts to find candidates only just good enough to qualify for them. The disparity is emphasised by figures from Oxford, where there were 17 applications for every available place in social studies, but only 1½ for every one in chemistry. Perhaps, as Lord Murray,

until recently Chairman of the University Grants Committee and lately appointed Chancellor of the new University of Stirling, maintains, this is only because "for once we have done a little too much too soon instead of too little too late." There is, however, a widespread feeling that this is not a passing phase, but represents a steady drift of abler young people towards the arts side. The serious implications of this for industry, and thus for the national economy, need no stressing in these pages. This is not to imply that arts men have a diminishing role to play; this is certainly not true so far as ICI is concerned. It is mentioned merely to point out that the academic faculties have got out of balance. It is a paradox that at a time when the universities are being supported as never before in their history, they are failing to attract the very kind of student generally agreed to be most urgently required. Commenting on this recently, Sir John Fulton, Vice-Chancellor of Sussex, remarked that if this situation does not right itself it will raise fundamental issues about the relationship between individual choice and national needs.

*Editor:* In view of the greater emphasis upon the accountability of Divisions for their operations, why was it decided to retain a Central Purchasing Department?

*Griffiths:* As a general principle, Divisions will do their own purchasing in future except where it is agreed that to purchase centrally has definite advantages. For example, where buying requirements for a number of separate Divisions centrally can produce better prices than the same Divisions buying the same things individually. This may be possible not only for a single material required by a number of Divisions, but also in the case of demands for interrelated products or various products from one big supplier. In addition, in the purchasing of commodities such as oils and fats, rubber, jute or cotton, special skills are required, and where these can be found in C.P.D. it would be wasteful to disperse or duplicate them in Divisions.

In some cases central purchase is not appropriate; for example, products bought solely for one Division, or purchases for resale or to supplement a Division's sales line during a time of temporary shortage, perhaps in anticipation of new or expanded production.

Divisions can, however, always ask

Central Purchasing Department to buy for them, especially in cases where the cost of Divisional buying would be greater than using the existing services. It has been estimated that complete decentralisation of purchasing in ICI would increase departmental costs throughout the Company by 20% or more.

*Editor:* How does Central Purchasing Department fit into the new Head Office organisation?

*Griffiths:* Central Purchasing is now grouped with Sales Administration, Tariffs and Trade, and Central Distribution Department in the Commercial Services Group, which reports to the Commercial Director through the General Manager Commercial Services. The General Manager Commercial Services also acts as Head of Purchasing Department. The department is currently housed at Nobel House, Buckingham Gate, but will shortly join the other departments in the group at Millbank.

*Editor:* Can you tell me how the Company's purchase bill is made up and to what extent it has changed over recent years?

*Griffiths:* Purchases for UK Divisions, subsidiaries and associates, but excluding purchases for IMI (Kynoch), are running at about £180m. a year compared with £118m. ten years ago. About £100m. is spent on raw materials, fuel and packages and the remainder on capital and maintenance engineering materials. At present about £100m. is the direct responsibility of Central Purchasing Department.

There has been little change in the variety of general stores and common plant spares, such as electric motors, over recent years, but the installation of new plant in the fibres, petrochemical and plastics fields has changed the pattern of our purchases. A notable example is the growth of our purchases of naphtha, which in 1955 were 200,000 tons and are now on the scale of millions of tons a year. Similarly, packaging materials have changed with the substitution of traditional materials by new ones, either wholly or in part, such as the replacement of glass carboys by polythene, paper and jute sacks by plastic sacks, and timber packages by fibreboard containers. The volume of our purchases has increased considerably over recent years, although individual items may have been reduced in volume.



**Editor:** How much of ICI's raw materials are supplied from within the Company, and how are such materials priced?

**Griffiths:** Inter-Division transfers of raw materials and intermediates for further processing are running at the rate of about £65m. a year. This, of course, is in addition to the £180m. of purchase which I have previously mentioned.

ICI can supply some basic raw materials from its own natural resources, as for instance salt and brine from Cheshire, anhydrite from Billingham and limestone from Derbyshire. There are also many products made by one Division which are used by others, for example Paints Division purchase pigments and phthalic anhydride from Dyestuffs for use in making paints and resins. ICI Fibres make 'Terylene' from HOC Division's ethylene glycol and para-xylene, and Dyestuffs Division supply them with nylon polymer. Some packaging materials such as polythene sacks and a limited number of steel drums are also made in the ICI group. Transfer prices are based, in the majority of cases, on the commercial price appropriate to quality, quantity, and method of delivery.

**Editor:** We hear a lot about inflation and rising prices: What effect has inflation had on the Company's costs?

**Griffiths:** Generally, prices of our purchases of fuel, raw materials and packages, were on average 9% lower in 1964 than in 1958. This has been due partly to increased competition in the international chemical industry and partly to cost reductions following technological advances, which have been passed on to ICI in the form of lower prices. Inflation has, however, had a marked effect on the cost of capital construction and maintenance supplies. The prices of these materials in 1964 were 11% higher on average than in 1958.

**Editor:** Do the buyers become specialists and remain in Central Purchasing Dept., and to what extent do Divisional staff work in C.P.D.?

**Griffiths:** Buyers naturally are expected to become as expert in their particular field

**A tanker leaving Mond Division's Castner-Kellner Works with vinyl chloride for the Hillhouse Works of Plastics Division**



Crude oil for HOC Division's new refinery on Tees-side being unloaded from a tanker by means of ultra-modern hoist handling equipment



The raw materials store at Severnside Works. The material in the foreground bunker is sulphur from the Lacq oilfields in the south of France, and the further heap of material is phosphate rock from the island of Nauru in the Pacific

as possible, and some people have made their careers in Central Purchasing Dept. with perhaps only short periods outside the department. Staff from Divisions have, however, been working in C.P.D. for many years, some on secondment, others on a more long term basis. Likewise, staff from C.P.D. have taken responsible jobs in Divisions. A small techno-commercial section recruits its members from Division technical and research departments, and it is hoped to expand this work. It is intended to increase the number of exchanges of staff with Divisions at all levels.

**Editor:** ICI must make a large number of overseas purchases. Do you employ staff

permanently overseas, or are there agents to act on your behalf?

**Griffiths:** We do not normally station people overseas. We do, however, employ a member of C.P.D. staff in New York on secondment for about two to three years at a time because of the importance of our purchases in North America. Buyers however travel considerably, both at home and overseas. Last year about a quarter of Central Purchasing Department's staff went abroad on buying missions, making one or more visits.

We also use the services of our overseas subsidiary companies whenever appropriate. Considerable help is given to us for example by ICI (China) in Hong Kong,

and ICI (Japan) in connection with our purchases of greycloth for making 'Vynide'. We in turn act in the United Kingdom as the agents of the overseas companies for their purchases here. In Eastern Europe we use the services of our selling agents where appropriate, in view of the reciprocal trading element in our business in these countries.

**Editor:** From what you have said, it seems clear that there will be a continuing need for a Central Purchasing Department.

**Griffiths:** Yes, I think there can be no doubt but that the department will continue to provide a valuable and necessary service.



# People & Events

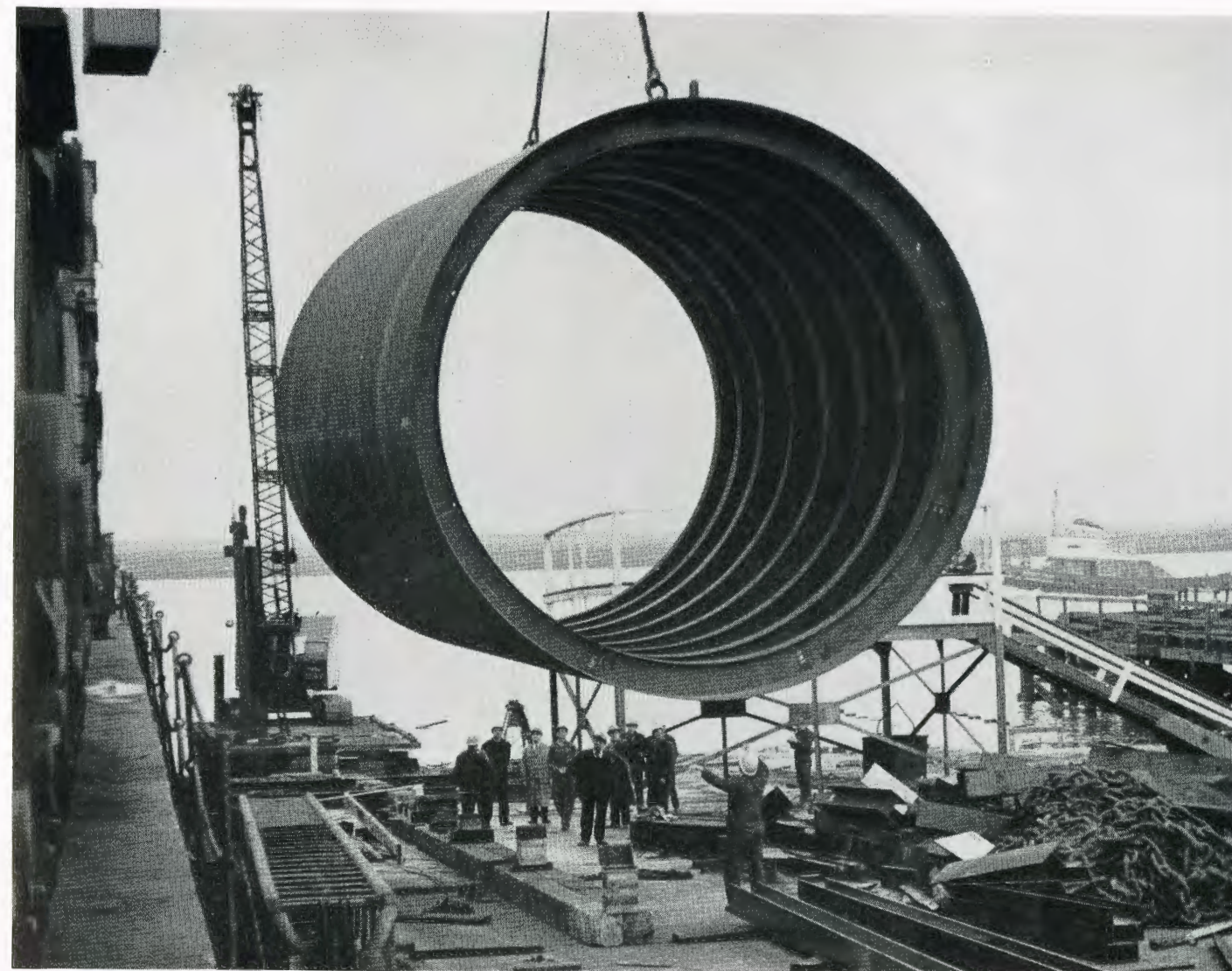


**ICI First Aid Competition** A team from HOC Division's Olefine Works won the ICI First Aid Competition in London on 16th March. This is the first time Olefine has won the trophy—they were fifth in last year's finals and Wilton representatives on three previous occasions—and the first-ever win for a Wilton team. They were presented with the trophy by Mr. C. M. Wright (extreme right), ICI Personnel Director, and also received individual prizes of portable radios

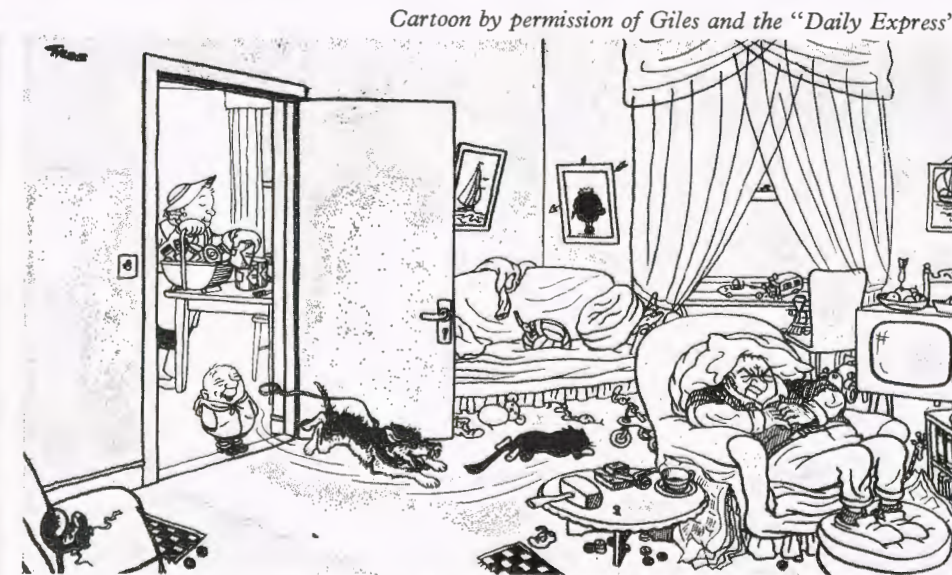


**Record voyage** She is not very big, but she has recently sailed 20,000 miles, ridden out a cyclone, and brought home a cargo of calcium carbide for Mond Division. She is Nobel Division's 664-ton mv "Lady McGowan," one of two ships operated by the Division, normally in home waters, to transport explosives. Her recent record voyage took nearly four months and took in Calcutta, Morombé in Madagascar and Dugirat in Yugoslavia, where she collected a cargo of calcium carbide, for Hillhouse Works, seen here being unloaded at Fleetwood

**Paris copy (right)** More and more 'Terylene' fabrics are being used by Paris couturiers, so more and more British manufacturers are producing copies of the originals. This is just one example. The original, by Pierre Cardin, in pink 'Terylene' wool, sums up the trend in Paris this spring, with its swirling pleated skirt, cleverly fluted at the hem, and its short belted jacket. The copy, being made up here by Wallis Shops in the original fabric, will sell at about 13½ guineas



**"Ocean Prince" laid down** The first section of the mammoth offshore drilling rig, ordered for use by the Burmah Oil-ICI North Sea exploration group, being laid down at Smith's Dock, Middlesbrough. Scheduled for delivery towards the end of this year, the barge, which is to be named "Ocean Prince," will be 365 ft. long overall and will have a working deck almost an acre in extent. It will be fitted with a helicopter platform and have living accommodation for about fifty men



"Present for you, Dad—three gallons ICI undercoat, three gallons ICI high gloss finish, out price.

**RPM and ICI** This Giles cartoon appeared in the "Daily Express" of 4th March following wide press comment on the news that out of its 12,000 products ICI will continue to apply resale price maintenance only in respect of cement and certain pharmaceuticals





**Board appointment** Dr. John Sisson (top), chairman of Plastics Division, since January 1963, has been appointed to the ICI Board. Dr. Sisson, who is 56, joined ICI in 1933 from Bristol University and was appointed a director of Plastics Division in 1949. He is succeeded as chairman of Plastics Division by Mr. E. G. Williams (above), one of the Division's deputy chairmen



**Seconded from CIL** Dr. S. Slater Grimley, research manager of Canadian Industries Ltd. since 1959, has been seconded by CIL to succeed Mr. J. L. Porter as head of ICI's Research and Development on the latter's appointment as technical managing director of Ilford Ltd.



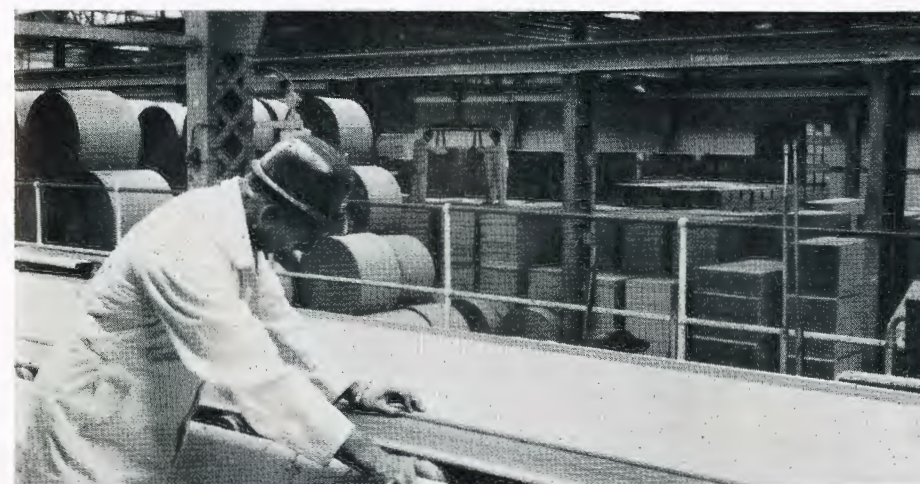
**Top of the Bill** Sharing the limelight with singing stars Ivor Emmanuel and Patricia Bredin at a recent variety show at Wilton were Robby, the talking robot, and offspring. The brain-child of Mr. Colin Smith, an assistant foreman in the Engineering Workshops at Billingham, Robby was originally made for the Works open day, where its antics as it earned its living as a "fitter's mate" delighted children and adults alike. Its method of propulsion remains the secret of its designer, and it is now armed with "Martian gas," also secret. Future plans for Robby include visits to the children's wards of various hospitals and possibly an army recruiting campaign in Middlesbrough



**Palace Investiture** Sir Lincoln Steel, who retired in 1960 after 15 years on the ICI Board, received a knighthood in the New Year Honours list. He is seen here, with Lady Steel and their son David, outside Buckingham Palace on 18th March after receiving the accolade. Sir Lincoln was President of the International Chamber of Commerce from 1963 to 1965 and Chairman of the British National Committee of the International Chamber of Commerce for 12 years previously



**Multi-million expansion programme** An aerial view of ICIANZ's Botany Site in New South Wales for which new plants and extensions costing around £A9 million have been announced. The major item will be a £A5½ million petrochemical cracking plant to produce ethylene, and extensions are scheduled for the polythene and pvc plants. A further £A2 million is to be spent by ICIANZ at Dry Creek saltfields in South Australia on extensions which will include a chlorine plant and extra salt extraction plant



**Expansion in building products** New plants, costing over £3 million, for production of ICI's 'Pioneer' gypsum plasterboards and ready-mixed lightweight plasters are to be built at Severnside and Billingham and will jointly have a capacity of 27 million square yards of plasterboard and 135,000 tons of plasters. Above: The existing plasterboard plant at Billingham. In the foreground an operator checks the uncut board as it moves along a conveyor belt. In the background are bales of paper and stacks of finished board



**Chemical industry post** Mr. J. C. H. McEntee, former productivity studies manager, has been appointed Director General of the merged Association of British Chemical Manufacturers and Association of Chemical and Allied Employers





**Success at Crufts** Mr. David Rogers, a mail room supervisor with Mond Division, entering his 14-month-old Welsh terrier bitch in the famous Crufts Dog Show for the first time, won one first and two second prizes. The first dog Mr. Rogers has owned, Pwllrhos Eve, had already collected 22 awards in shows in the North before making her debut at Crufts



**£500 award** Mr. Leslie Noble, a chargehand on the 'Terylene' polymer plant at Wilton, was recently awarded £500 for an idea, submitted under the ICI Suggestion Scheme, concerning the more efficient operation of the plant's glycol stills. He is seen here (centre) receiving a cheque from Mr. W. Liddell, assistant works manager (production). Also in the picture is Mr. Joe Wilson, who received a £175 award



**50 years' service** Two ICI employees have recently completed half a century's service with the Company. They are Mr. Thomas Montey of ICI Fibres (31st January) and Miss Lillias C. Wilson of Nobel Division (11th February)



**Try-out in the tropics** They could be the latest thing in garden frames. They could even be a new line in Easter eggs this year. In fact these strange objects are only part of the many lines of plastics materials which are laid out in the open air at the Tiljala Weathering Site of ICI (India) to see how ICI's plastics stand up to extremes of climatic conditions



**More 'Melinex' film** A view of the Dumfries Works of Plastics Division, where current extensions will increase capacity for 'Melinex' polyester film to over 6000 tons a year by the end of 1965. In addition a new plant is to be built to bring capacity at Dumfries to over 10,000 tons by 1967. 'Melinex,' made from the same polymer as 'Terylene' fibre, is exported in large tonnages, in particular to the Benelux, and EFTA countries and the Commonwealth

## RETIREMENTS

### Mr. R. C. Todhunter

Mr. S. P. Chambers, ICI Chairman, writes:

On 31st March the Company lost, through retirement, the services of Robin Todhunter, still known in many parts of the world as Captain Todhunter because of this high rank which he reached very quickly in the Royal Navy during the war. He succeeded Lord Reith as Director of Combined Operations Material in 1944.

Back in ICI he became Purchases



Controller in 1947, a post in which he distinguished himself both by clear decisive judgments, which in outstanding cases saved the Company very large sums of money indeed, and by his capacity to lead a loyal and competent team.

His principal work on the Main Board has been as Overseas Director, first for one part of the world and then, after a period as Group Director for the Plastics Division, for the other part. An assiduous traveller, he and his wife Pat, who accompanied and helped him on many arduous overseas tours, have become known, respected, and much liked by Directors and staff of ICI and associated companies all over the world.

His incisive manner, his uncompromising integrity, and his firm opposition to any policy or action which he considered wrong or unsound have been accompanied by a sense of humour and an almost boyish enthusiasm for sports and other outdoor activities.

An outstanding squash player and cricketer, he has carried on playing long after most men have given up active competitive sport, and this no doubt accounts for his trim, youthful figure and good health.

We shall all miss him both as a colleague and as a Director.

### Mr. W. D. Scott

Mr. S. P. Chambers writes:

Donald Scott, who retired from the Company's service on 31st March, joined the Main Board in 1954, and for more than half of his service as a Director he has been the Commercial Director.

After graduating both at Oxford and at Yale, his first appointment was with the Hercules Powder Co. Ltd., working in the USA and Rotterdam. His excellent academic background, together with his early experience outside the Company, marked him out for a career in marketing. He distinguished himself successively as Market Development Officer in Dyestuffs Division, Home Sales Manager of that Division, Regional Manager, Southern Region, Joint Managing Director (Commercial) of Billingham Division, Group C Director on the Main Board, and then finally as Commercial Director.

A quiet voice and a kindly manner conceal a tough negotiator with a penetrating mind which is quick to spot the weaknesses in any doubtful argument. As the Commercial Director his judgment has been unfailingly sound, and we have all learned that a tentatively expressed opinion from Donald Scott is invariably more likely to be right than the emphatic



views of others who may not have given the matter as much thought.

Donald, with his American-born wife Muriel, with their wide interests ranging from agriculture to pictures, furniture and silver, are always excellent and stimulating company.

The retirement of Donald Scott from the Company's service is a loss to all his colleagues, but as with Robin and Pat

Todhunter, we hope to have continuing opportunities of meeting both Donald and Muriel Scott on lighter, social occasions.

## OBITUARY

### Dr. J. W. Armit

Mr. C. M. Wright, ICI Personnel Director, writes:

The sudden death of Dr. J. W. (Wilson) Armit last December came as a great shock to his many friends and former colleagues in the Company. He retired from the chairmanship of Wilton Council over ten



years ago, but he led a most active life in retirement on his 2000-acre hill farm in the heart of the Lowlands, combined with a directorship of Triplex Holdings and, for many of these years, membership of the Scottish Railway Board.

I first met Wilson Armit about 35 years ago soon after he had joined the Technical Department in London under Mr. John Rogers, and over very many years I was able to appreciate his quick grasp of technical problems, his foresight, and the high standard he set himself in all his work. This was clearly demonstrated by his fine contribution to the nation's war effort in the second World War as Director General of Explosives. After the war he returned to the Company and displayed these same qualities as Chairman of the Leathercloth Division for a year, followed by eight years as Chairman of Wilton Council. As I followed him at Wilton I can truly pay a handsome tribute to his breadth of vision and foresight in the formative years of the growth of this site for the major post-war developments in the Company. I kept in touch with him during his retirement, either on his farm or when he was in London, and a few weeks before his passing I remarked on how extraordinarily fit and active he looked.

His old friends in the Company feel very sad at his passing, and we extend our sincere sympathy to Mrs. Armit and their family.



## The Chairmen of Divisions

# Mr. Derrick Carter of Mond Division

Mr. Carter is chairman of what until comparatively recently were not only two separate Divisions but in some aspects two Divisions whose products were in rivalry. The task of assimilation and adjustment was not of course for the chairman alone—it involved every member of both Divisions—but inevitably it was his concern, and even his responsibility, to a far greater extent than that of anyone else. Fortunately, as chairman of both Divisions, he was able in advance to prepare and plan for the eventual amalgamation, and to this formidable task he devoted his thought and energy for many gruelling months, shuttling unceasingly back and forth between the Alkali and General Chemical headquarters and Head Office in London in an all-out effort to ensure that the merger, when it took place, should be as equitable, acceptable and successful as good will and good planning could make it.

Mr. Carter was trained as an engineer. He has an engineer's dislike of waste and untidiness. He likes, as far as possible, for his own interest and gratification to keep up with what is happening in the engineering world. At his home he maintains a workshop in what were once the stables. He finds that he has little time in which he is free to work there, but is comforted by the knowledge that it is there for "one of these days." To meet casually, you might find it hard to place him, for he is not at all the conventional idea of a businessman or of a captain of industry. Rather, with his quiet and unassuming self-reliance, you might take him for a diplomat. He possesses an easy manner, one feels him to be innately sociable, and yet he has not at all the brashness which so often goes with complete self-confidence, and his quickness to find amusement in men and things, even if the amusement is to some extent over

their idiosyncrasy, underlines his humanity.

The Division over which Derrick Carter presides is the largest in ICI. Its most immediate problem is still that of finding itself as a single, integrated Division. Personal—and personnel—angles are still therefore a major preoccupation for its chairman. Mr. Carter's basic philosophy is one of "do it yourself." He expects people, once their job is defined, to get on with it, as he would himself, in their own way. Like others of his colleagues, he is not a great committee man. He himself and his three deputy chairmen form an executive committee, which could be loosely likened to the War Cabinet Committee. The Division, as those who recall his recent article on Mond Division in the *Magazine* will remember, is grouped round the technically related products rather than divided into sections that would deal with particular branches of industry. The directors for these groups, and their functional colleagues on the Board, discuss policy with his committee. With so much to do it is not easy for Board members and senior executives to keep in day-to-day touch with one another, and for this reason Mr. Carter uses the lunch break as a means of informal exchange. Board members normally lunch together on Mondays, Wednesdays and Fridays. On Tuesdays and Thursdays Mr. Carter, together with some of his directors, lunches with senior members of staff. The Wednesday lunches are held at the Division's guest house, Lawson House, at Runcorn, and are the most important, in that an effort is made to get together everyone who has not a good reason for absence, and discussions there, with everyone participating, will be as effective as one of the formal quarterly board meetings.

Mr. Carter believes in getting around the works and departments as often as possible and in seeing as many of his executives as he can. Since there are no fewer than eighty managers in Mond Division and the works are scattered, this is clearly no easy task, and he wishes that he could find more time for what he considers one of the most important duties of his office. His days are taken up with the usual flow of correspondence, meetings and interviews. He owns to looking forward to that quiet period of the day when the office has closed and people have gone home, for it is then that he can sit back undisturbed and do a little forward thinking or turn over in his mind problems that are looming ahead. Complicated problems he likes to put down on paper—the act of so doing often brings them into perspective; for less complicated ones cogitation—and his pipe—often suffice.

Plastics Division are Mond's largest customers, with a turnover in the region of £15 million, chiefly on account of the large quantities of vinyl chloride taken by Plastics Division in the processing of PVC, one of the most widely known of all plastics. This may well continue, but Mr. Carter is convinced that the Division has got to look to the shape of things to come as far ahead as 1975 and even 1980 if it is to keep its place in the highly competitive race for markets. Capital investment in new plant of an impressive order is to be made—to the tune of £100 million by 1970. Positioning is important, and logistics—for Mond Division's is a heavily interlocked business, wherein accessibility of raw materials and of intermediates is of the highest consequence in relation to the economics of production. Mr. Carter likes what he describes as "a process which eats its own tail," and many of Mond's processes do that very thing.



He sees, however, the Division's largest immediate preoccupation as one of clearing the decks for future action. There have been some major technical problems needing the very closest study and examination. These have been in relation to doing what, when and where. Now come the no less exacting subsidiary problems of putting up the best possible plants for the purpose and being sure that they are being worked to the best advantage.

Mr. Carter wants to see the former Alkali and General Chemicals personnel lose the sense of "we" and "they"—or, as he tersely puts it, to convince the lads from the Weaver that the people from the Mersey are not monkeys—and vice versa. To do this, he believes, it is only necessary to arrange for them to meet one another. He has thrown a number of mixed parties, but he looks more to redeployment and the interchanging of staff at all levels to effect a durable synthesis.

The move to Runcorn as headquarters of the Division has had a welding influence, in Mr. Carter's opinion. Office life in a large city like Liverpool, for example, he thinks tends to be more impersonal than on a small site like Runcorn Heath. He welcomes also the presence of the Petrochemicals and Polymer Labs on the Runcorn site, feeling that the rubbing of shoulders between the longer range research people and those on the more directly practical projects makes for the stimulation of both.

For relaxation he likes sailing, a little bit of shooting now and again, and—his workshop. Then, of course, there is gardening. "Do you work in the garden?" a visitor asked him recently. "Like a slave!" was his reply.



# The Masters Match

by P. C. Allen



From 8th to 11th April there will be played in the State of Georgia, U.S.A., a golf tournament which, as Mr. P. C. Allen here relates, is above all the one the professionals most want to win. All golfers will, however, be interested to know just why this particular fixture has become such a great event in the golfing calendar.

The Masters Tournament at Augusta, Georgia, is something quite simple: it is the greatest golf tournament in the world.

Held in mid-April in surroundings of great beauty, when the azaleas and dogwoods are in flower, it is above all the tournament that the professionals want to win, quite apart from the fact that the first prize is \$20,000. Once the British Open was "the one to win"; later, as the world centre of golf moved to the United States, the U.S. Open became the more important. But now the Masters has somehow become the greatest of them all.

This is rather hard to explain, for it depends on that undefinable thing—atmosphere. Somehow at Augusta the sense of a great sporting occasion is generated, hard to describe but impossible to miss, like that of a Lord's Test Match or of the Cup Final at Wembley or Epsom on Derby Day. The huge crowds

Mr. P. C. Allen (left) is the only overseas member of the Augusta National Golf Club, a distinction which he greatly prizes. Above: Arnold Palmer and Gary Player at the 4th green

—estimates say 40,000 people are present on the last day—have been milling round the course, and a big friendly vociferous segment of them, probably well over 2000, have sat round the last green the whole day long, generous with their applause and commiseration. Every player gets his round of applause, every good putt gets a hearty handclap and every putt missed, a deep heartfelt groan. Then at last the climax is reached as in the last pair the expected winner comes striding up the long hill of the 18th hole greeted by tremendous applause, doffing his cap in acknowledgment and then bending over his last approach putt. And if, as



happened in 1964, it is Arnold Palmer, and if, as happened then, he sinks it for a birdie 3, a storm of cheers goes up which could be heard in Atlanta, 160 miles away.

All day this climax has been building up just as the tensions have been rising in the players, but Americans being what they are in the pinch, these tensions on the last day have produced some incredibly spectacular finishes without which someone else would have been the winner—things like Art Wall's finish of five birdies in the last six holes, to win by one stroke; Doug Ford's holing out from a bunker at the 18th green for a winning "birdie"; and Gene Sarazen's two at the 520-yard 15th hole, where he put a full spoon shot into the hole, enabling him to tie for first place and then win the play-off. In this fierce cauldron of competition, it was good to see Britain's Peter Butler holding

his own last year, indeed lying second in the whole tournament with nine holes left to play.

Another reason why the Masters is such a great event is because it is held on a splendid golf course, subtle, ingenious and varied, and because it is impeccably run. First of all, it is run by the Club; they, the members, run it. They run it as an invitation tournament and they invite whom they like and omit anybody who is unacceptable. Good amateur players are encouraged, old heroes and past winners are asked back and foreign players are encouraged. Yet the great pros are all there and one of them always wins it. The list of winners sounds like the Hall of Fame of American golf; indeed only one foreign golfer, Gary Player of South Africa, has ever won it.

The last and perhaps the most cogent reason for the greatness of the Masters is

*The 16th green gallery*

the presiding genius of the immortal Bobby Jones, the founder—jointly with Cliff Roberts of New York—of the Augusta National Club and course. Roberts, who knew the district as a winter resort, saw the opportunities for a new club here thirty-five years ago, and Jones, who had just done the impossible Grand Slam, winning all four of the major tournaments of the world in one year, enthusiastically agreed. First and foremost they decided that this should be a members' club, which it is to this day, and that they would lay out a course which could be enjoyable to the indifferent golfer and yet testing to the toughest professional. This Dr Alister Mackenzie, the Scottish architect, has succeeded in doing to a remarkable degree, by the most ingenious combination of



tees and green design and the most cunning use of slopes and folds in the ground. Played from the back of the tees with the pins in the acutely difficult positions selected for the last day of the Masters Tournament, this can be a hellishly long and difficult round of golf, as I found when I so played it on the day after the 1964 event. Off forward tees with the pins more leniently placed, it is not a harsh test of golf, certainly not in the manner of Pine Valley, Walton Heath Old or Carnoustie. There is no rough to speak of, though there are lots of trees, but the rough has been cleared out under the trees so that a wild shot doesn't ruin you. There are only forty-four bunkers on the whole course, and some of these are there to protect the player from worse things, and the greens are big. Yet, as on other deceptively simple courses like St. Andrews, you can bumble round in 90 shots without getting into much trouble or even being conscious of much trouble, but when you want to shoot 72, then it is altogether different. The second half of the course is particularly fitted for triumph

and disaster, with several water hazards, difficult greens and great demands on skill, yet offering great rewards in return.

The Masters Tournament has grown from modest beginnings in 1934 into the great event it is today, and, as the event has grown, so have the crowds and so have the facilities for them. Unobtrusive mounds have been built at strategic points which don't conflict with the play, but make it easier to see, grandstands of scaffolding are put up and afterwards removed, plumbing has been installed, and hot dogs and beer counters abound. There are huge car parks, as there have to be when 10,000 cars come on the last day. There is a fine shop for golf goods and souvenirs, and the press are handsomely looked after, with the leading players after each round describing what shots they hit so that the newspapermen can report correctly whether Chichi Rodriguez used a 6 iron or a 7 at the 6th hole and what Jack Nicklaus thought of his socketed tee shot at the 12th—he laughed.

Yet so well are the spectators catered for, with mounds and grandstands, that

the course never seems unbearably crowded. With a little anticipation, one can see any player play any one stroke; the only thing one can't do is to see every stroke played by any one player. But best of all for the spectators are the scoreboards at strategic points which show the ten leading players' scores relative to Par, so that at a glance you can see how each man stands against the others and his score at every hole of the round. Then as the players come up to each green their names are put in a frame and their score relative to Par for the whole tournament up to that point.

And so we come to the final moment of the tournament, after the cheques have been handed out in Cliff Roberts's office, when, in the cool of the evening, the members in their green blazers and a small residue of the great crowd are gathered in front of the old farmhouse which is now the clubhouse. Then after some simple speeches, last year's winner invests the new winner with the green Masters coat and another Masters Tournament is at an end.



66 The clubhouse



At the British Trade Fair, Stockholm

# WHY EXHIBITIONS?

by Jack Skinner

Every year, on average, ICI takes part in at least one exhibition every week, in addition to supporting many agricultural shows throughout the United Kingdom.

Why does ICI appear at exhibitions, which are only one of many forms of publicity and reach a much smaller public than can be reached through the press, radio, television or films? The answer is that though more limited in scope an exhibition has, none the less, certain advantages over other forms of publicity. In the first place, products can be displayed for actual inspection. Live demonstrations can be given and customers met face to face, with the opportunity of answering their questions on the spot. Secondly, an exhibition, used in the right

way, will sometimes enable the exhibitor to get a foot into markets which would otherwise be unapproachable. ICI certainly does not exhibit just because some of its competitors may be doing so or in the sense of keeping up with the Joneses. It exhibits where to do so is part of an overall marketing plan to promote a particular product or service, which in any case may well be preceded by selective press advertising, direct mail, personal invitations, etc., and with follow-ups of the same description, to maintain continuity.

Exhibitions fall naturally into three main groups, apart from the very large international exhibitions such as the Festival of Britain or the current New

York World Fair, which are in a class by themselves and to which rather different considerations apply. First, there are the popular domestic exhibitions devoted mainly to consumer goods, such as the Ideal Home Exhibition and the Radio Show. In general ICI does not exhibit at these, although in one way or another its products are much in evidence, but not necessarily in the form in which ICI sold them. Of the 12,000-odd products which ICI supplies, very few are sold direct to the consumer, the vast majority being converted by manufacturers before sale. Therefore when ICI does of itself appear at this type of exhibition it is usually as part of a "back selling" operation to help launch a product which uses its materials.



# A FAMILY ALBUM



Two Wilton employees and two of their friends have been operating an unusual partnership to secure some outstanding photographs of bird life in the woods near Wilton Works. Between them they have spent many hours in securing, among many others, the photographs reproduced in this issue.

The Wilton members of the team are Geoff Box, a gardener in the Wilton Castle grounds, and Phil Hoggarth, green-keeper on the Wilton Works golf course. Their part in the enterprise has been to locate likely subjects and supervise the siting and erection of the camouflaged

"hide" for the photographers. The photographic members of the team are Doug Garrett, a warehouse foreman, of Middlesbrough, who is the monochrome specialist; and Jim Blower, a Redcar businessman, who is the colour transparency expert.

Bird photography, they say, is a most stimulating pastime. It demands a sound knowledge of wild birds and their habits, a capacity for hard work and an abundance of patience. But most important of all is to consider the birds at all times and never to expose them to possible sources of danger.

A hide with wood or metal frame covered with canvas and camouflaged has to be erected. In its simplest form, this is

a tent with a hole in the side through which the lens may view the bird or nest.

The hide should be a minimum of three feet square and six feet high and strong enough to withstand high wind and rain. It should be furnished with a strong tripod and a stool—the latter being a virtual necessity because of the long vigils likely to be involved.

A camera of large format with all movements is preferable for monochrome; colour in this size will be too expensive. If using 35 mm a good telephoto lens is essential. For lighting, electronic flash is needed in most cases because the birds build their nests in the shade and short exposures are required to stop movement.



*"There were  
the chicks just  
begging to  
be photographed"*

Also, in the photographers' opinion, two lighting heads are better than one.

The most exciting subject to date since their group came together has been the successful attempt to photograph the bullfinches illustrated here. Once this particular nest had been located and agreed upon as a promising subject, the next stage found Geoff Box and Phil Hoggarth working like beavers to build a

hide and get it into position before the hen bird finished laying the remainder of her eggs.

Initially, the hide was sited about 30 yards from the nest. Each day for the next ten days it was moved a little closer until it was only 3 ft. 6 in. away, with a close-up view for the cameras through the small aperture. This careful approach certainly paid off, and the birds became so accustomed to its presence that it did not disturb them—even with the two pieces of tinfoil fixed to the top front corners of the hide to represent the flash which would come when photography started.

At this stage, with the hide finally in position, the birds were left alone for

nine days. There had been a long dry spell of weather, and they prayed for rain in the hope that it would discourage the marauding attentions of young bird-nesters, thereby giving the hen bird the chance to hatch out her young. And sure enough, it did rain. So much so that the dry woodland path they had left had become a quagmire by the time they revisited the nest.

Now the photographers came into their own—all the preparatory work of Geoff and Phil was about to pay its dividends. Jim Blower was the first to take his camera to the hide—rising at 5.15 a.m. one Sunday and making his way to Wilton. Carefully moving aside a camouflaging branch, he entered the hide and, full of excitement, peered through the aperture. There were the chicks, just begging to be photographed. Unhappily Jim had left his tripod behind, so his pictures had to be taken with the camera held in the hand. Nevertheless he became so engrossed watching and recording the arrival and departure of the parent birds that he spent the whole morning in the hide—the Wilton Works hooter jolting him back to awareness that it was time to go home for lunch. As he was leaving, Doug Garrett arrived to carry on the good work, and for the next five days the pair spent many hours in the hide with their cameras. They found watching the habits of the birds a fascinating experience. The parents would come in, feed the young—selecting a particular chick each time—then they would pick up any dirt in the nest and fly off. Something like half to three-quarters of an hour might elapse between visits, so great patience was needed. In time, the photographers became so familiar with the birds' habits that they were able to record all that they wanted with two or three shots of each visit.

It was not long, however, before they discovered that they would not be able to work together. For some reason the birds seemed to know when two people were in the hide, and they flew off and would not return to the nest. Electronic flash, the click of the camera, the inevitable betraying sounds made by one human being—all these they would accept without disturbance to their routine. But as soon as two people were in the hide—or even in the vicinity—they made themselves scarce.

How did they know? That is the mystery which the group has yet to solve.



**"PRAYER HALL, SHAH MOSQUE, ISFAHAN,"** *by Basil Goodfellow*

